

REMARKS

With entry of this amendment, Claims 31-61 are pending. Claims 31, 32, 34, 37, 38, 40-45, 47, 50, 52, 58, and 59-61 have been amended to correct typographical errors. No new matter has been added.

Restriction Requirement

The Examiner requests restriction under 35 U.S.C. §121 and 372 to one of the following groups:

Group I, Claims 31-36, and 43-46, drawn to an isolated DNA molecule comprising SEQ ID NO: 1 and 3.

Group II, Claims 37-40, 58, and 61, drawn to an isolated DIO-1 polypeptide comprising the peptide of SEQ ID NO: 2 and 4.

Group III, Claims 41-42, drawn to a nucleic acid probe.

Group IV, Claims 47-48, drawn to a process of producing a protein of SEQ ID NO: 2 or 4.

Group V, Claim 49, drawn to a method of identifying clones comprising hybridization.

Group VI, Claim 50, drawn to a method of identifying agonists and antagonists of SEQ ID NO: 2 and 4 comprising transfecting expression vectors into a cell and identifying agonists or antagonists that interact with DIO-1 gene.

Group VII, Claim 51, drawn to an agonist or antagonist.

Group VIII, Claim 52, 59-60 drawn to a method of identifying ligands that interact with SEQ ID NO: 2 and 4 using a yeast two hybrid system.

Group IX, Claim 53, drawn to a method of producing antibodies to SEQ ID NO: 2 and 4.

Group X, Claim 54-56, drawn to a method of treating a disease comprising the administration of compounds according to SEQ ID NO: 2 or 4 or agonists or antagonists to SEQ ID NO: 2 or 4.

Group XI, Claim 57, drawn to a method of treating a disease comprising the administration of an expression vector comprising SEQ ID NO: 1 or 3.

The Restriction Requirement states that “the technical feature linking groups I-XI appears to be the DIO-1 nucleic acid molecule. However, Nagase *et al.* teach a cDNA (KIAA0333) that is identical to that of SEQ ID NO:1. . . [T]he technical feature linking the inventions of group I-XI do not constitute a special technical feature as defined by PCT RULE 13.2 as it does not define a contribution over the prior art.” Applicants respectfully traverse this restriction requirement and assert that the pending claims do indeed share the same or corresponding technical features.

Applicants respectfully assert that Nagase *et al.* discloses one hundred new cDNA clones which are not functionally related. Nagase *et al.* merely suggests that the protein encoded by KIAA0333 contains a zinc finger motif, it appears to be located on chromosome 2 and the protein product is 50% similar to another predicted protein, KIAA0244. It does not include the acidic region and nuclear localization signal of DIO-I.

Furthermore, Nagase *et al.* does not teach, disclose or suggest that there is any therapeutic function to KIAA0333. Applicants therefore respectfully assert that the DIO-I nucleic acid molecule sufficiently links the inventions of group I-XI and that the pending claims related to a single inventive concept and share the same or corresponding technical features. Applicants respectfully request that the restriction requirement applied to the pending claims be reconsidered by the Examiner. Applicants believe that the arguments presented above, combined with the results obtained in the International phase of the application as provided by the European Patent Authority as International Preliminary Examination Authority in its International Preliminary Examination Report, strongly support the assertion that the present invention is not divisible into 11 groups of claims.

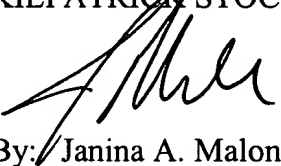
Alternatively, Applicants assert that Groups II and IX should be combined, as it would not place an undue burden on the Examiner to search both groups. The claims in Group II are drawn to an isolated DIO-1 polypeptide comprising the peptide of SEQ ID NO:2 and 4. Group IX is drawn to a method of producing antibodies to SEQ ID NO:2 and 4. If the sequences are unique, then a method of producing antibodies to them would also be unique.

If the Examiner does not see fit to recombine the groups, Applicants elect Group II.

Applicants respectfully submit that this is a complete response to the Election/Restriction Requirement dated October 3, 2003 and are of the opinion that the application is now in condition for allowance. Early and favorable consideration is earnestly solicited. If the Examiner believes there are other issues that can be resolved by telephone interview, or that there are any informalities remaining in the application which may be corrected by Examiner's Amendment, a telephone call to John K. McDonald, Ph.D. at (404) 815-6500 is respectfully solicited.

Respectfully submitted,

KILPATRICK STOCKTON, LLP



By: Janina A. Malone
Reg. No. 47,768

KILPATRICK STOCKTON, LLP
Suite 2800
1100 Peachtree Street
Atlanta, Georgia 30309
(404) 815-6500
Attorney Docket No.: 46309-253995 (23890)